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Integration Model of Knowledge Management and Social Media for Higher Education

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Currently social media has radically changed the business process of organization. Higher Education as a place with the majority generation Y, that advances to use technology has to realize these phenomena. With social media, organization may facilitate the knowledge sharing process within organization, then to support collaborative learning from e-learning to social learning. Regarding to this phenomenon, this research will analyze the integration of concepts of knowledge management and social media as a model to identify the significant factors and its relationship to support each other. A systematic literature review from journal and text book was conducted to construct this collaboration model. The result of this study is integrated model of knowledge management and social media model to support teaching and learning activities for higher education.

Keywords: *Knowledge Management, Social Media, e-Learning, Higher education*

1. Introduction

Many organizations believe that with implementing knowledge management systems can make organization become effectiveness, efficiency, and competitiveness because the objective of knowledge management is to support knowledge sharing among organizational member. The increased interest of knowledge management makes many organizations investigate and implement knowledge management framework for managing and utilizing intellectual asset in their organization, one of them is higher education.

The higher education as a knowledge-based organization also has a framework to run teaching and learning process. Nowadays, teaching and learning process are no longer executed only in the classroom, but it combined using electronic platform, that's known as e-learning. This method describes the use of instruments for learning process, involve the delivery of content via electronic media, such as internet, satellite broadcast, television, cable television, DVD, video, etc. According to this method, for distance education, which learning disassociated from time and place such that the learner does not share the same situation with what is being learned, it is not a big obstacle to interact between the instructor and the student.

Meanwhile, internet social media has enriched the way people to communicate and interact each other (1) because it contains abundant data can be a rich source of information (2). With social media, users allowed to post everything (image, quote, link, video, etc.) and to share and comment about those posted. Facebook, Twitter, Google+, Path and others as a part of social media have become very popular for young people. Those media can provide an easy way to access or exchange information between people. This is how people interact with others in Web 2.0 environment. Such effect is not only confined at the personal life, but also in social life. At the organization level, social media enable people to interact, share information, and collaborate in all business processes. Furthermore, social media has eliminated barriers in communication, which has helped individuals keep contact with his/her friends (3).

According to this phenomenon, this study investigates what the component between social media and knowledge management system that can support teaching and learning activity for higher education. Moreover, this research describes the prior studies about e-learning and Knowledge Management to elaborate suitable model that can be appropriate for support teaching and learning activity for higher education.

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2. Theoritical Background

E-Learning

E-learning systems are known as multidisciplinary concept. Many researchers from any other fields, such as information systems, computer science, psychology, education, etc., have been describing e-learning concepts. Some have focused on technology, where others have studied only the human behavior factor like student and instructor satisfaction. E-learning system can combine multimedia such as text, video, audio, graphic, image, etc to support learning experience (4). According to this capacity, learners can deeply explore their knowledge about a subject.

Since the objective of this study was to explore some aspects of social media and knowledge management to support learning process, there are some frameworks of e-learning founded from study literature process. One of the famous applicable framework of e-learning according to Khan model, contains eight dimensions (5) figure 1 : Institutional, Pedagogical, Technological, Interface, Evaluation, Management, Resource support, and Ethical.

Figure 1: E-Learning Framework (5)

The component of e-learning environment is different from traditional learning. Traditional classroom-based in a static system that happened in the classroom, whereas e-learning takes place in dynamic system, where learner and instructor can decide where and when they want to learn or to continue the learning process.

Social Media

The fast changing of technology has changed how student to solve the problem. There are numerous social media that can be used to find information. Social media could be an effective tool for educational purposes (6). Moreover with the existence of social media has helped students with new channel learning to build interactive learning process. Higher education, therefore must be prepared to embrace the challenges and opportunities brought by social media. The functionality and the usage of social media has spread into seven components, as described in honeycomb framework in Figure 2.. This framework shows the seven building blocks of social media functionality which each part allows us to examine user experience and its implications for organizations (7).

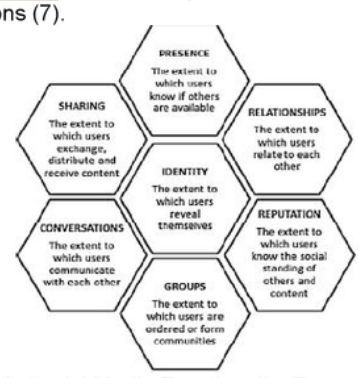

Figure 2: Social Media Functionality Framework (7)

The seven functional blocks of social media, consist of (8):

1. The identity, this block represents user identities in social media environment, such as name, gender, age, profession, location, and also additional information that describe social media users in certain ways.
2. Conservation functional block represents the communication process in social media. The diversity of conversations that can take place in a social media setting means that there are any format and protocol implications for firms which seek to host or track these conversations.
3. Sharing represents the extent to which users exchange, distribute, and receive object (e.g. text, video, picture, sound, link, location, etc.)
4. Presence represents status users. It shows which user is accessible. In the virtual world, this happens through update status like "available" or "invisible". This block can increase connectivity of people on the move, which bridges the real and virtual.
5. Relationships. This block represe the extent to which user can be connected to other users. Consequently, how users are connected that often determines what and how of information exchange happened.
6. Reputation is the extent to which users can identify the standing of others, including themselves, in a social media setting. However in social media, reputation refers not only to people but also their content.
7. Group functional block represents the extent to which users can form communities and sub-communities.

Social media in higher institution provides a place or a meeting point for generation Y who can socially interact with their friends as well as communicate about learning process in their non-threatening space and time (9). This generation came into being during the last two decades of the 20th century. They have confident and technologically advanced, and they come with a sense entitlement(10).

In addition functionalities to the classroom learning process, the interaction process in social media has a benefit to enhance learning and teaching, the development of learning skills, authentic learning, student-centered pedagogy, and interactive learning groups (11).

e-Learning

The human dimension has 3 (three) implications, which are the human as the subject of learning activities, human-based social network, and human-based social culture (12). When interaction has a direct impact to the learners' intellectual growth, it can be concluding the interaction meaningful to the learning process (13). The uses of social media can enhance learning process, complementing face to face session so the holistic learning experience can be achieved (14). When the learning environment need interaction with other people (classmates, experts, outside authority), it's a social learning concept (15). The varieties of social learning consists of feedback from learners, dialog with industry, mentor, coach or teacher; collaboration on proje discussions among experts, online community or professional network.

Human knowledge is created and expanded through social interaction between tacit and explicit knowledge, so it is necessary to consider the social learning to eliminate or reduce possible barrier in peer interaction to accelerate knowledge process optimization and to help learners obtain maximum learning efficiency (12). Moreover with social learning, learning more reliable by mobilizing minds and perspectives to solve a problem and connecting learning to the world (15).

Knowledge Management Systems

Higher education creates knowledge during the learning processes. Knowledge is created to explicit knowledge in the form documents, video, procedures, etc at various levels (faculty, students, administration, academics, etc.). Each level creates knowledge as well as use knowledge. Capturing and building the institutional knowledge still available will ensure the long-term continuity in learning process. Despite this fact, there are a lot of approaches to knowledge management system have been implemented across organizations to fully realize its potential for increasing organization performance (9). For this study, we try to use the implementation of knowledge management system for higher education learning process.

3. Methodology

In order to identify the most significant factor to integrate social learning and knowledge management, this research consist of several steps:

1. First step was conducted by identifying and analyzing data aboung social media and knowledge management systems.
2. Second step we try to analyze knowledge management components, e-learning framework, and social media framework functionality from journal and articles that already used.
3. The last step, we integrate each component towards a collaboration knowledge management model and social media.

4. Result and Discussion

Many organizations have a perspective that e-learning system has a similar attributes as basic knowledge management processes and thus can be used as a tool for knowledge management (16). Defining a suitable Knowledge management is the key element of Knowledge management implementation (17). In order to develop a suitable knowledge management framework for higher education, this study identified some of component of knowledge management that already implemented in organisations. After process reviews on literature from 2004 until 2015, there are consists of 8 (eight) component variables that have impact to implementation Knowledge Management, which are in Tabel 1:

Table 1 Compontent of Knowledge Mangement

Components	Description	References
Technology	IT infrastructure and technology utilization	(18)(19)(20)(21)(22)(23) (24)(25)(26)(27)
Intellectual asset	Knowledge asset	(18) (22)
Organization learning	Positive organization environment to facilitate knowledge creation and sharing	(18)(19)(20)(23) (24)(25) (27)
Process	Knowledge flow	(18) (20) (23) (28)
Philosophical	Higher understanding of knowledge toward development of new way of thinking	(18) (20)
Leadership	Management skill to support organization KM activities	(19)(20) (22) (25) (27)
Culture		(20) (23) (25)(26) (28)
People	Personal skills and competencies to handle KM Process	(23) (24)(26)(27)

According to the mapping element above, the result shows that the major components are consists four elements, which are: Technology, organization learning, leadership, and culture. Therefore, these variables will be a based framework to collaborate with social media functionality and e-learning component framework.

This study also checks the major aspect for e-learning that focused from 2002 until 2015, which consist of in Table 2:

Table 2 Components of e-learning

Components	References
Social	(29) (30) (31) (12) (32) (33)
Structure and Layout	(29) (34) (35)(31) (33) (36) (37)
Communication	(29) (31)
Process	(37) (38) (33)
Evaluation	(34) (38)(30) (33)(39)
Cooperative Learning Community	(34)(30) (32)
Learning Resources	(34) (30)(39)
Technology	(34)(40)(12)(39)(36)
Pedagogy	(34)(40)(12)(32)
Hypermediality	(35)(31)
Ethical	(34)

According to the finding, this research collaborate each element into a new conceptual model that integrate the significant component of knowledge management framework and social media framework, in figure 4:

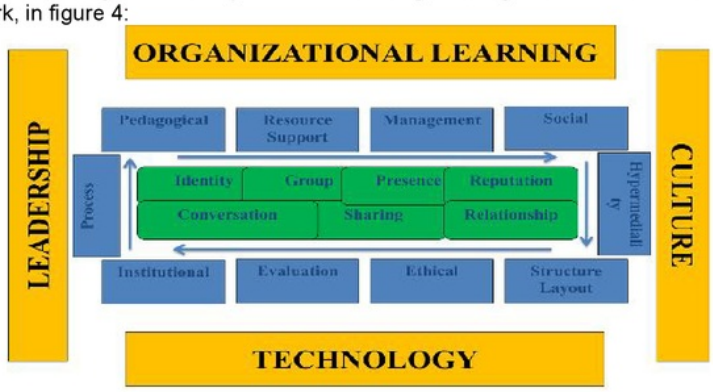

Figure 4: The Integration KM & Social Learning Model

The proposed model collaborate social media functionality framework, e-learning element, and knowledge management components.

The main components to integrate knowledge management and social media consist of:

1. Technology is an important component of both e-learning and knowledge management for managing the distribution and use of knowledge, one of them is Learning Management System (LMS) as a tool to support learning process. Support is also required to manage collaboration room, user access, discussion forums, etc.
2. Pedagogy
   The foundation of E-Learning is pedagogy, so learning process can be improved through guidance. The typical form or guidance come from the teacher or tutor to organize the learning process (41). Pedagogy concerns about content analysis, audience analysis, media analysis, etc.
3. Culture
   Knowledge Management and E-Learning have a common goal to promote learning and competency development. Integration between knowledge management and E-Learning will accommodate continuous learning culture in organization (42).
4. Evaluation
   Integration knowledge management and e-learning are important to do evaluation and assessment to be real situation (43).
5. Leadership
   Management should demonstrate leadership in motivating and stimulating knowledge integration activities in the higher education. Leaders should shape a positive organization culture where the role of knowledge, KM, innovation, and creative thinking is encouraged and valued(44).
6. Structure & Layout
   The structure and layout of the learning course enabling higher education to define which parts of the learning material are included in a particular learning course (44).
7. Organizational Learning
   Knowledge Management is connected to many organizational perspectives; on the contrary, e-learning focuses on personal perspectives. Thus, one of the concerns of Knowledge Management integration can utilize learning resources of higher institution that it would strengthen the purpose of the organization(45).
8. Social
   Collaboration is a significant process for E-Learning and Knowledge Management activities. It means communication and collaboration are the most important factors of successful education (46).

Accordingly, highlighting has been identified on the main components of knowledge management and social media whereby both components can be utilized within the higher

institution to reflect on the balance between knowledge management and social learning in higher education.

5. Conclusion

Learning identified as a fundamental to achieving sustainability intellectual of student (47). The rapid growth and current popularity of social media enhanced media learning to complement face to face session. Knowledge Management takes an organizational perspective on learning and E-Learning is the best way to help acquire the dynamic distributed, shared and collaborative knowledge through technological (48).

This study provides a conceptual model for higher education to define knowledge management framework components and significant social media components to integrate these two concepts. The components identified are based on study literature. Integration of the social media concept to enhance knowledge sharing will give more flexibility and functionality which can increase the good learning experience and learning outcome.

6. Limitation and Future Research

The present research has some limitations that must be considered to get relevant improvements in the learning process. For future research, the model could be assessed by domain expert of knowledge management framework for validation. After that, this model could be tested in higher education for completing the list of relevant sustainability component to get the feedback from the higher education.

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